CLAIMS

1. A production method for a butterfly valve (1) for an internal combustion engine, this butterfly valve (1) comprising a valve seat (4) engaged by a butterfly body (5) keyed on a shaft (6) in order to rotate between an open position and a closed position under the action of an electric actuator (3) coupled to this shaft (6) by means of a geared transmission (8) which ends in a final gear (18) keyed on the shaft (6), the shaft (6) being coupled to a position sensor (23) provided with a rotor (24) rigid with the shaft (6) and a stator (25) disposed to face the rotor (24), this method being characterised in that it comprises the stages of disposing the shaft (6) and the rotor (24) of the position sensor (23) coaxial with the shaft (6) in a mould (30), injecting plastic material into this mould (30) in order to fill the mould (30) and producing, by moulding, the butterfly body (5) keyed on the shaft (6) and the final gear (18) keyed on the shaft (6) and incorporating the rotor (24) of the position sensor (23).

2. A method as claimed in claim 1, in which the rotor (24) of the position sensor (23) comprises a plane metal coil (26) closed in short-circuit and having a series of lobes (27).

3. A method as claimed in claim 2, in which the

metal coil (26) is partially embedded in the final gear (18), the metal coil (26) having a surface (28) facing the stator (25) of the position sensor (23), which surface (28) is substantially coplanar with an outer surface (29) of the final gear (18).

4. A method as claimed in claim 2, in which the metal coil (26) is completely embedded in the final gear (18).

5. A method as claimed in claim 1, in which the mould (30) comprises two portions (31, 32) which can be separated, a first separable portion (31) of the mould (30) housing part of the shaft (6) and having a respective hollow portion (33) for the production of the butterfly body (5) and a second separable portion (32) of the mould (30) housing the remaining part of the shaft (6) and having a respective hollow portion (34) which is adapted to produce the final gear (18) and to bear the rotor (24) of the position sensor (23).

6. A butterfly valve (1) for an internal combustion engine produced in accordance with the method as claimed in claim 1, this butterfly valve (1) comprising a valve seat (4) engaged by a butterfly body (5) keyed on a shaft (6) in order to rotate between an open position and a closed position under the action of an electric actuator (3) coupled to this shaft (6) by means of a geared transmission (8), which ends in a

final gear (18) keyed on the shaft (6), the shaft (6) being coupled to a position sensor (23) provided with a rotor (24) rigid with the shaft (6) and a stator (25) disposed to face the rotor (24), the final gear (18) being produced by injection moulding of plastic material and incorporating the rotor (24) of the position sensor (23).

7. A valve (1) as claimed in claim 6, in which the rotor (24) of the position sensor (23) comprises a plane metal coil (26) closed in short-circuit and having a series of lobes (27).

8. A valve (1) as claimed in claim 7, in which the metal coil (26) is partially embedded in the final gear (18), the metal coil (26) having a surface (28) facing the stator (25) of the position sensor (23), which surface (28) is substantially coplanar with an outer surface (29) of the final gear (18).

9. A valve (1) as claimed in claim 7, in which the metal coil (26) is completely embedded in the final gear (18).